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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/475,186	12/30/1999	BYUNG KEUN LIM	K-133	6047

34610 7590 05/07/2003

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EXAMINER

LELE, TANMAY S

ART UNIT	PAPER NUMBER
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2684

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DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/475,186	Applicant(s) LIM ET AL.	
	Examiner Tanmay S Lele	Art Unit 2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 01 March 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

Response to Arguments

1. Applicant's arguments filed 28 February 2003, have been fully considered but they are not persuasive.
2. In response to applicant's argument that the "(references), do not teach or suggest at least a feature wherein, when said active terminal moves from a first one of said radio network controllers to a second one of said radio network controllers in a suspended state or a dormant state, medium access control layer state information and radio resource control information of said active terminal are maintained between said first and second radio network controllers under control of said location management unit," a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 1, Applicant attempts to overcome the rejection by stating "Wallentin does not teach ... of when said active terminal moves to a second of said radio network controllers in a suspended state or a dormant state information of said active terminal are maintained," and further recites that, "Wallentin further does not teach or suggest at least a feature of a location management unit and combination thereof." As cited in the previous Office Action (paper 2, pages 3 – 4) it is believed these limitations are taught by Wallentin in view of Wright. Note in Wallentin (column 10, lines 40 – 45, cited in the previous Office Action and

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further with respect to Figure 1), Wallentin teaches of when active terminal moves from a first to a second RNC in a suspended or dormant state (note the definition of idle state is contained in column 2, lines 1 – 7). Furthermore, Wallentin teaches of a location management unit, (column 4, lines 45 – 53, as cited in the previous Office Action; note the cited function is performed).

Applicant further notes that “Wallentin discloses updating the controlling RNC information after the connection between the calling party in the core network is made.” Note the Examiner does not make reference to this embodiment, but the cited embodiment from the previous Office Action (column 4, lines 45 – 53) in reference to rejecting the claimed. Hence, the Examiner is not persuaded by the Applicant’s argument that the references do not teach or recite the claimed.

3. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Regarding claims 1 and 8, Applicant attempts to overcome the rejection by stating, “Wright does not teach or (the) suggest medium access layer state information and radio resource control information of said control of the location management unit when the active terminal is in a suspended state or a dormant state.” Applicant further states Wright does not teach or suggest the features of the MAC layer of claim 8,” (though it is not noted what features are failed to be taught, with reference to paper 6, page 14). As cited in the previous Office Action (paper 2, pages 3 – 4) it is believed that these limitations are taught by Wallentin in view of Wright. Note in Wright, as cited in the previous Office Action (paper no 2, pages 3 –4), Wright teaches of while in a suspended or a dormant state, medium access control layer state

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information and radio resource control information of said active terminal are maintained (column 6, lines 34 – 50 and column 28, lines 5 – 8; note, the definition of idle is given in column 2, lines 21 – 25 and specific reference to the MAC layer is made in the latter of the cited passages). Applicant further “request(s) the location to be provided by the USPTO of the description of the acronym MAC in Wright as being related to medium or medium access control.” Wright’s treatment of the “MAC layer” (from column 27, line 58 to column 34, line 67), deals with the accessing and controlling the channel (medium), which by definition, is the “MAC” layer. This term is common in the art and its definition is inherent in Wright (and to his understanding of the invention), as can be inferred in the discussion detailed from column 27, line 58 to column 34, line 67. Note specifically in column 27, lines 60 – 61, Wright teaches of accessing the channel with reference to having packets to transmit or not. Thus, Wright’s treatment of “MAC” (and the “MAC Layer”) is synonymous to those of the common definition of “MAC” as known in the art (for example, “Newton’s Telecom Dictionary” page 696, with reference to term’s origins in the IEEE 802). Hence, the Examiner is not persuaded by the Applicant’s argument that the references do not teach or recite the claimed.

4. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., point of initiation) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Regarding claim 10, Applicant attempts to overcome the rejection by stating, “...any initiation described in Wallentin of an update to a controlling RNC status is a result of

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the page message initiated by the core network (MSC). ” As cited in the previous Office Action (paper 2, pages 7 – 9) it is believed these limitations are taught by Wallentin in view of Wright. Note as claimed, no reference is made to the point of initiation. Further note, as stated in the previous Office Action (paper no 2, page 8), the paging message is a system overhead message, as the pilot message specified by Applicant is. Hence, the Examiner is not persuaded by the Applicant’s argument that the references do not teach or recite the claimed.

DETAILED ACTION

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 17 and 18 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. An “inactive handoff” is not taught in the specification. For purposes of examination it was assumed to be an “active handoff.”

Claim 18 is rejected as being dependent on claim 17.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallentin et al. (Wallentin, US Patent No. 6,292,667) in view of Wright et al. (Wright, US Patent No. 6,240,083).

Regarding claim 1, Wallentin teaches of a system for controlling a packet data service in a mobile communication network, comprising a plurality of radio network controllers, wherein each of said radio network controllers assigns a radio channel to a packet data service active terminal and controls a data service path for said active terminal (as seen in Figure 1; column 6, lines 14 – 22; and column 2, lines 11 - 14) and a location management unit that manages service state information, location information and connection information of said active terminal (column 4, lines 45 –53 and column 6, lines 55 – 65), wherein, when said active terminal moves from a first one of said radio network controllers to a second one of said radio network controllers in a suspended state or a dormant state, information(s) of said active terminal are maintained between said first and second radio network controllers under control of said location management unit (column 6, lines 55 – 63 and in column 10, lines 40 -45).

Wallentin does not specifically teach of the radio network controllers assigning a radio channel to a packet data service active terminal and of while in a suspended or a dormant state, medium access control layer state information and radio resource control information of said active terminal are maintained.

In a related art dealing with accessing a network, Wright teaches of the radio network controllers assigning a radio channel to a packet data service active terminal (column 4, lines 57 –61 and column 9 lines 36 – 46) and of while in a suspended or a dormant state, medium access

control layer state information and radio resource control information of said active terminal are maintained (column 6, lines 34 – 50 and column 28, lines 5 – 8).

It would have been obvious to one skilled in the art at the time of invention to have included into Wallentin's system of mobile communications, Wright's concepts of channel accessing, for the purposes of efficiently reserving the channel thus prevent collision of messages between devices, as taught by Wright.

Regarding claim 2, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 1. Wallentin further teaches of further comprising a packet data node for maintaining a point-to-point protocol link with said active terminal through a serving one of said radio network controllers to process one of an incoming signal from said active terminal and an outgoing signal to said active terminal (column 13, lines 40 – 48).

Regarding claim 3, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 2. Wallentin further teaches that the said second radio network controller is adapted to receive packet data node routing information from said first radio network controller and transfer a node link message to said packet data node to notify the packet data node that said active terminal has moved to said second radio network controller (column 4, lines 53 – 58).

Regarding claim 4, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 1. Wallentin further teaches that further comprising a mobile switching center and a visitor location register, wherein said location management is provided to said mobile switching center and visitor location register column 11, lines 4 – 21).

Regarding claim 5, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 4. Wallentin teaches of a packet control function entity adapted to establish a

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virtual circuit between a serving one of said radio network controllers and one of a target one of said radio network controllers (seen in Figure 1 and detailed starting column 6 line 55 and ending column 7 line 8), wherein said packet control function entity is provided said mobile switching center and visitor location register (column 13, lines 13 – 21 and lines 40 – 48). Wright further teaches and a packet data node (column 9, lines 36 – 46).

Regarding claim 6, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 1. Wallentin further teaches that wherein said suspended state is a state where a traffic channel, a power control channel and a radio resource control channel are released between said active terminal and a serving one of said radio network controllers, and wherein a radio link protocol state and a point-to-point protocol state are maintained between said active terminal and said serving radio network controller (column 2, lines 1 – 7) and wherein said dormant state is a state where a radio connection is released between said active terminal and said serving radio network controller and only said point-to-point protocol state is maintained between said active terminal and a packet data node (column 13, lines 40 – 48).

Regarding claim 7, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 1. Though Wallentin in view of Wright do not specifically teach that wherein said mobile communication network is an IMT-2000/PCS/cellular communication network, it is well known in the art that IMT-2000 is in fact third generation-packet switched network and therefore commonly used as 3G rolls out and thus Examiner takes “Official Notice” of such. It therefore it would have been obvious to one skilled in the art at the time of invention to have used the invention in a IMT-2000 network, as this network will be a packet switched network (by definition).

Regarding claim 8, Wallentin teaches of a radio communication network that includes a plurality of radio network controllers (seen in Figure 1), a method for operating a mobile communication network, comprising moving a packet data service active terminal from an old one of said radio network controllers to a new one of said radio network controllers in at least one of a suspended state and a dormant state (column 10, lines 40 – 45), transferring information and radio resource control information of said active terminal from said old radio network controller to said new radio network controller through a location management function entity (column 6, lines 55 - 65), and maintaining said information and radio resource control information of said active terminal between said old and new radio network controllers (column 6, lines 55 – 65).

Wallentin does not teach of the medium access control (MAC) layer, specifically of a suspended medium access control (MAC) layer state and a dormant MAC layer state, transferring MAC layer state information and maintaining said MAC layer state information.

In a related art dealing with accessing a network, Wright teaches of suspended medium access control (MAC) layer state and a dormant MAC layer state, transferring MAC layer state information and maintaining said MAC layer state information (starting column 28, line 5 and ending column 30, line 65).

It would have been obvious to one skilled in the art at the time of invention to have included into Wallentin's system of mobile communications, Wright's concepts of channel accessing, for the purposes of efficiently reserving the channel thus prevent collision of messages between devices, as taught by Wright.

Regarding claim 9, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 8. Wallentin further teaches that the location management device is in a mobile switching center and provides radio packet data service (column 11, lines 15 –25).

Regarding claim 10, Wallentin teaches of a method for controlling a packet data service in a mobile communication network of a radio communication network that includes a plurality of radio network controllers, at least one location management function device to provide a radio packet data service, (seen in Figure 1 and detailed in column 4, lines 45 – 53) the method comprising allowing a packet data service active terminal to move from a current one of said radio network controllers to a target one of said radio network controllers (seen in Figure 1, column 4, lines 45-52), allowing said active terminal to detect a received pilot signal and check a system overhead message (column 9, lines 62 – 64; note a paging message is a system overhead message), and allowing said active terminal to determine whether to perform a handoff operation at a suspended state (column 6, lines 55 – 63 and column 10, lines 40 - 45).

Wallentin does not specifically teach of a packet data node allowing a packet data service active terminal to move from a current one of said radio network controllers to a target one of said radio network controllers under the condition that only a point-to-point protocol state is maintained between said active terminal and said packet data node and allowing said active terminal to request said current radio network controller to permit its change to one of a dormant state and an active state when the determination is that said active terminal is to perform the handoff operation in said suspended state.

In a related art dealing with accessing a network, Wright teaches of a packet data node allowing a packet data service active terminal to move from a current one of said radio network

controllers to a target one of said radio network controllers under the condition that only a point-to-point protocol state is maintained between said active terminal and said packet data node (column 9, lines 36 – 46) and allowing said active terminal to request said current radio network controller to permit its change to one of a dormant state and an active state when the determination is that said active terminal is to perform the handoff operation in said suspended state (starting column 28, line 5 and ending column 30, line 65).

It would have been obvious to one skilled in the art at the time of invention to have included into Wallentin's system of mobile communications, Wright's concepts of channel accessing, for the purposes of efficiently reserving the channel thus prevent collision of messages between devices, as taught by Wright.

Regarding claim 11, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 10. Wright further teaches the step of allowing said current radio network controller to transfer radio link protocol state information and radio resource control information of said active terminal to said target radio network controller under control of said location management function entity if said active terminal is changed to said dormant state (column 28, lines 11 – 38).

Regarding claim 12, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 10. Wallentin further teaches that active terminal is changed to said dormant state, the method further comprises the step of allowing said location management function entity to transfer an overhead message to said target radio network controller to notify the target radio network controller that an inter radio network controller handoff operation is executed (column 9, lines 62 – 64 and column 10, lines 40 – 50).

Regarding claim 13, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 12. Wright further teaches that said active terminal is not to perform the handoff operation in said suspended state (column 27, lines 58 -62), the method further comprises the step of allowing said current radio network controller to detect a location of said active terminal and prevent the change to said dormant state (column 9, lines 44 -64).

Regarding claim 14, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 10. Wallentin further teaches that the location management function device is in a mobile switching center (column 11, lines 15 - 17).

Regarding claim 15, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 10. Though Wallentin in view of Wright do not specifically teach that wherein said mobile communication network is an IMT-2000/PCS/cellular communication network, it is well known in the art that IMT-2000 is in fact third generation-packet switched network and therefore commonly used as 3G rolls out and thus Examiner takes "Official Notice" of such. It therefore it would have been obvious to one skilled in the art at the time of invention to have used the invention in a IMT-2000 network, as this network will be a packet switched network (by definition).

Regarding claim 16, Wallentin in view of Wright, teach all the claimed limitations as recited in claim 1. Wallentin further teaches of wherein a handoff is initiated from the first radio network controller to the second radio network controller responsive to said movement of said active terminal to control of the second radio network controller in the suspended state or the dormant state (as seen in Figure 1 and column 4, lines 45 - 53 and column 10, lines 40 - 45 and column 6, lines 55 - 63).

Regarding claim 17, Wallentin in view of Wright teach all the claimed limitations as recited in claim 16. Wallentin further teaches of wherein the handoff is an active handoff from said first radio network controller to the second radio network controller (as seen in Figure 1 and column 4, lines 45 – 53 and column 10, lines 40 – 45 and column 6, lines 55 – 63).

Regarding claim 18, Wallentin in view of Wright teach all the claimed limitations as recited in claim 17. Wallentin further teaches of wherein said active terminal in said suspended state is transferred to one of said active state and said dormant state responsive to the location management unit before said active handoff (as seen in Figure 1 and column 4, lines 45 – 53 and column 10, lines 40 – 45 and column 6, lines 55 – 63).

Regarding claim 19, Wallentin in view of Wright teach all the claimed limitations as recited in claim 1. Wallentin further teaches of wherein a handoff is initiated from the first radio network controller to the second radio network controller responsive to a status change caused by said movement (column 6, lines 49 – 59 and Figure 1; note handovers are normally performed with respect to movement, such as when a mobile is moving from cell to cell).


Regarding claim 20, Wallentin in view of Wright teach all the claimed limitations as recited in claim 8. Wallentin further teaches of wherein the moving a packet data service active terminal is responsive to a status change caused by movement by the active terminal to an area controlled by said new radio network controller (column 6, lines 49 – 59 and Figure 1; note handovers are normally performed with respect to movement, such as when a mobile is moving from cell to cell ad column 12, lines 35 – 53 and column 11, lines 21 – 26).

Conclusion


Any inquiry concerning this communication from the examiner should be directed to Tanmay S Lele whose telephone number is (703) 305-3462. The examiner can normally be reached on 9 - 6:30 PM, Monday through Thursday and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, Nay A. Maung can be reached on (703) 308-7745. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.


Tanmay S Lele
Examiner
Art Unit 2684

tsl
April 21, 2003


NAY MAUNG
PRIMARY EXAMINER